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| 10/533,086 | 12/22/2005 | Toshiyuki Iwano | Q87284 | 9467 |
| 23373 7590 04/28/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | | |
| EXAMINER | | | | |
| GOLOBY, JAMES C | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/533,086

Applicant(s)

IWANO, TOSHIYUKI

Examiner

James Goloboy

Art Unit

1797

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5, 9-13, 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5, 9-13, 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. Applicant's amendments filed 1/16/09 overcome the rejections set forth in the office action mailed 7/17/08. New grounds of rejection necessitated by the amendments are set forth below.

Claim Objections

2. Claims 5 and 13 objected to because of the following informalities: Claims 5 and 13 recite a "dynamic viscosity", but use the units for kinematic viscosity. The examiner suggests that "dynamic" be changed to "kinematic", and the claim has been interpreted in that manner in the rejections set forth below. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. Claims 5 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Okaniwa in light of the evidence provided by Rondine (http://www.flrondine.it/sclib/221_schedatecnica.pdf).

In Table 1 (columns 5-8) Okaniwa discloses numerous examples of urea-thickened greases comprising calcium sulfonate. While a mineral oil is used as the base oil in these examples, Okaniwa discloses in column 2 lines 58-62 that the base oil can instead be a synthetic hydrocarbon oil, and in column 6 lines 15-17 teaches that a suitable oil has a viscosity of 14 cSt at 100° C, within the range recited in claim 5. In column 4 lines 63 Okaniwa discloses that the grease comprises from 5 to 20% by weight of the urea thickener, within the range recited in claim 5. In Table 1, Okaniwa

discloses compositions containing overbased calcium sulfonate, which can be Lubrizol 5283. On page 24, Rondine teaches that Lubrizol 5283 has a TBN of 375, within the range recited in the amended claims. Okaniwa therefore meets the limitations of claim 5. Claims 9-11 all recite limitations for the structure that is lubricated by the grease. Since the claims are drawn to a grease, and the structure is just an intended use recitation, it does not distinguish the claims over Okaniwa as the grease of Okaniwa is capable of lubricating the structures of claims 9-11.

Claim Rejections - 35 USC § 103

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okaniwa in view of Kinoshita in light of the evidence provided by Rondine.

The discussion of Okaniwa in paragraph 3 above is incorporated here by reference. Ikejima discloses a grease meeting the limitations of claim 5, but not further comprising a montan wax.

Kinoshita, in the abstract, discloses a lubricant which can contain thickeners and waxes, which are useful in lubricating metal-plastic surfaces. In column 4 lines 6-16, Kinoshita discloses that the thickener can be a urea thickener, as in the grease of Okaniwa, and the wax can be montan wax, as recited in claim 12. The addition of the wax of Kinoshita to the grease of Okaniwa meets the limitations of claim 12.

It would have been obvious to one of ordinary skill in the art to include the montan wax of Kinoshita in the grease of Okaniwa, as Kinoshita teaches that the waxes can be used in conjunction with a urea thickener in a lubricating grease.

5. Claims 5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikejima.

From column 1 line 62 through column 2 line 3, Ikejima discloses a grease composition comprising a synthetic base oil and a urea thickener. The synthetic oils are further discussed in paragraph 2 lines 13-27, and can be hydrocarbon oils. In column 6 lines 11-13 Ikejima discloses that the composition can further contain a calcium sulfonate. Claims 9-11 all recite limitations for the structure that is lubricated by the grease. Since the claims are drawn to a grease, and the structure is just an intended use recitation, it does not distinguish the claims over Ikejima as the grease of Ikejima is capable of lubricating the structures of claims 9-11. Claims 6-11 are therefore also anticipated by Ikejima. It is noted, however, that Ikejima teaches in column 6 lines 43-48 that the grease can be used to lubricate reduction gears.

The differences between Ikejima and the currently presented claims are:

- i) Ikejima does not disclose the viscosity of the base oil at 100° C.
- ii) Ikejima discloses in column 6 lines 11-13 that the calcium sulfonate can be overbased, but does not disclose the TBN of the calcium sulfonate.

With respect to i), Ikejima discloses in column 1 lines 64-65 that the oil base oil has a viscosity of 10 to 60 cSt at 40° C. Given the value and breadth of this range, it is clear that the range of viscosities at 100° C will overlap the claimed range.

With respect to ii), an overbased calcium has a base number of greater than zero, encompassing the recited range. See MPEP 2144.05(I): "In the case where the

claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);"

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikejima in view of Kinoshita.

The discussion of Ikejima in paragraph 5 above is incorporated here by reference. Ikejima discloses a grease meeting the limitations of claim 5, but not further comprising a montan wax.

Kinoshita, in the abstract, discloses a lubricant which can contain thickeners and waxes, which are useful in lubricating metal-plastic surfaces. In column 4 lines 6-16, Kinoshita discloses that the thickener can be a urea thickener, as in the grease of Ikejima, and the wax can be montan wax, as recited in claim 12. The addition of the wax of Kinoshita to the grease of Ikejima meets the limitations of claim 12.

It would have been obvious to one of ordinary skill in the art to include the montan wax of Kinoshita in the grease of Ikejima, as Kinoshita teaches that the waxes can be used in conjunction with a urea thickener in a lubricating grease.

7. Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa in view of Ikejima.

In paragraphs 19-20, Kurokawa discloses an electric power steering device, as recited in claim 13, comprising a metal worm that meshes with a worm wheel. In paragraph 24 Kurokawa discloses that this worm wheel is a reduction gear, meeting the

limitations of claims 14-15. Kurokawa further discloses in claim 24 that the worm wheel can be made of a resin, as recited in claims 13-14 and 18, specifically a polyamide resin, as recited in claims 16 and 19. The electric power steering apparatus of Kurosawa, comprising a metal work and a polyamide resin worm wheel, therefore meets the limitations of claims 13-19 except for the lubricating grease.

The discussion of Ikejima in paragraph 5 above is incorporated here by reference. Ikejima discloses a grease comprising a synthetic hydrocarbon oil, a urea thickener, and calcium sulfonate, and teaches that this grease can be used to lubricate reduction gears. The use of this grease as the lubricant for the reduction gear in the power steering apparatus of Kurokawa meets the limitations of claims 13-19.

It would have been obvious to one of ordinary skill in the art to use the grease of Ikejima to lubricate the reduction gear in the electric power steering apparatus of Kurokawa, in order to prevent wear of the gears, and because Ikejima teaches that the grease is a suitable lubricant for reduction gears.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa in view of Ikejima as applied to claims 13-19 above, and further in view of Kinoshita.

The discussions of Kurokawa in view of Ikejima in paragraph 7 above and Ikejima in view of Kinoshita in paragraph 6 above are incorporated here by reference. The addition of the montan wax of to the electrical power steering apparatus of

Kurokawa meets the limitations of claim 20, and would have been obvious for the reasons stated in paragraph 6 above.

Response to Arguments

9. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCG

/Glenn A Caldarola/
Acting SPE of Art Unit 1797